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"Safety" forecast formulae for nematodirus hatch

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Previous memoranda have given nearest straight line formulae for forecast purposes. In order to avoid, as far as possible, forecasts which give late dates for 10% and peak hatch, the following formulae, based on March 1st-20th. 1ft earth temperature data are proposed for the Cockle Park data.

10% hatch $179.6 - 4.4T_{20}$

Peak hatch $192.6 - 4.4T_{20}$

The results are given over the page.

NOTES. 1. Negative errors are "safe" i.e. ahead of the observed date

2. The most serious 10% error occurred in 1968 when there was a pronounced warm spell at the end of March.

3. Peak dates are difficult to identify in practice with infrequent sampling.

4. With regard to the error in peak date in 1967 it may be significant that the 4 inch soil temperatures began to fall appreciably on the 8th April and there was a dry spell from the 11th to the 19th.

This suggests that greater precision regarding hatch dates cannot be attained without more detailed consideration of soil moisture and day-to-day temperature variations.

/Year

Year	Actual 10% Field Experiment	March 20 Forecast	Error	Actual Peak Field Experiment	March 20 Forecast	Error
1955	April 25	April 24	-1	May 8	May 7	-1
1956	April 12	April 13	+1	April 18	April 26	+8
1957	March 22 March 22	March 28	+6	April 5 April 13	April 10	+5
	March 28		+6	April 2		+8
			0			-3
1958	April 24	April 22	-2	May 11	May 5	-6
1959	March 28	March 29	+1	April 18	April 11	-7
1964	April 18	April 10	-8	April 26	April 23	-3
1965	April 25 April 28	April 18	-7	May 12 May 4	May 1	-11
			-10			-3
1966	April 6 April 9	April 1	-5	April 23 April 19	April 14	-9
			-8			-5
1967	March 31 April 1	March 21	0	April 29 April 29	April 13	-16
			-1			-16
1968	March 22 April 2	April 11	+20	April 12 April 24	April 24	+12
	April 2		+9	April 26		-2
			+9			-4
1969	April 20 April 21	April 23	+3	May 7 May 2	May 6	-1
	April 23		+2	May 10		-4
			0			+4

Any comments or suggestions on this paper should be sent to the author.

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